TACOM

**Mobility and Firepower
for America's Army**

M109A6 155mm Self Propelled Howitzer Digitization Initiative

Presented to:
National Defense Industrial Association
23 June 1998

Presented by:
Mr. Chuck Jacob
OPM Paladin/FAASV

Tank-automotive & Armaments COMmand
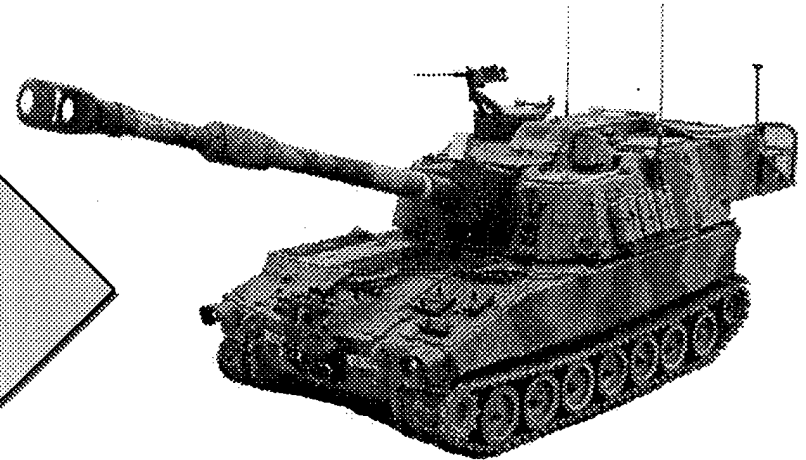
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Paladin Digitization Initiative

Where Am I?

Where Is the Enemy?

Provide Situational Awareness

Where Are My Buddies?

Increase Survivability

Increase OPTEMPO

Increase Lethality

Paladin Team

- ★ DCSOPS
- ★ DCD at Ft Sill
- ★ PM Paladin/FAASV
- ★ ARDEC
- ★ United Defense
- ★ MEI
- ★ Mitre (FFRDC)

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Alternative Paths To Situational Awareness

Paladin Howitzer
Wolverine
Mortar Fire Control
Abrams
Bradley
Crusader
MLRS

EBC
★ Choice For 'Heavy Hitters'
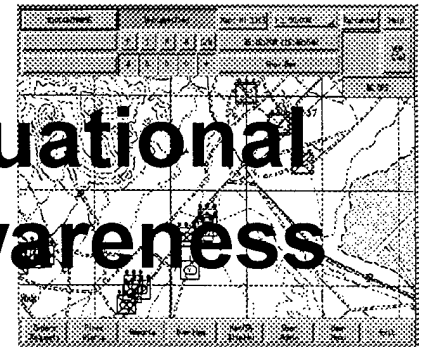★ Avoids 'Swivel Chair' Operation
★ Minimizes 'Boxes'

Integrate
Embedded Battle Command (EBC)
Software On Host Platform

OR

Add
Force Battle Command Brigade & Below
(FBCB2) Applique Computer

Situational Awareness

FAASV
Grizzly
Other Vehicles Without a Host Computer
Interim Solution For Some Weapon Systems

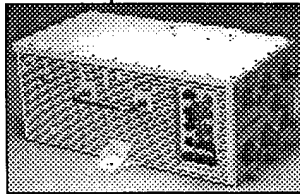Committed to Excellence

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Paladin Digitization Strategy

1993
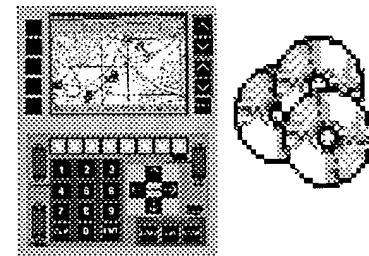- Field Original Automatic Fire Control System (AFCS)

1997
- AFCS XXI
- Pentium Upgrade
- Windows NT OS
- GPS Integration

Current Focus

2000
- Integrate EBC
- Replace Monochrome Display with Graphical Display
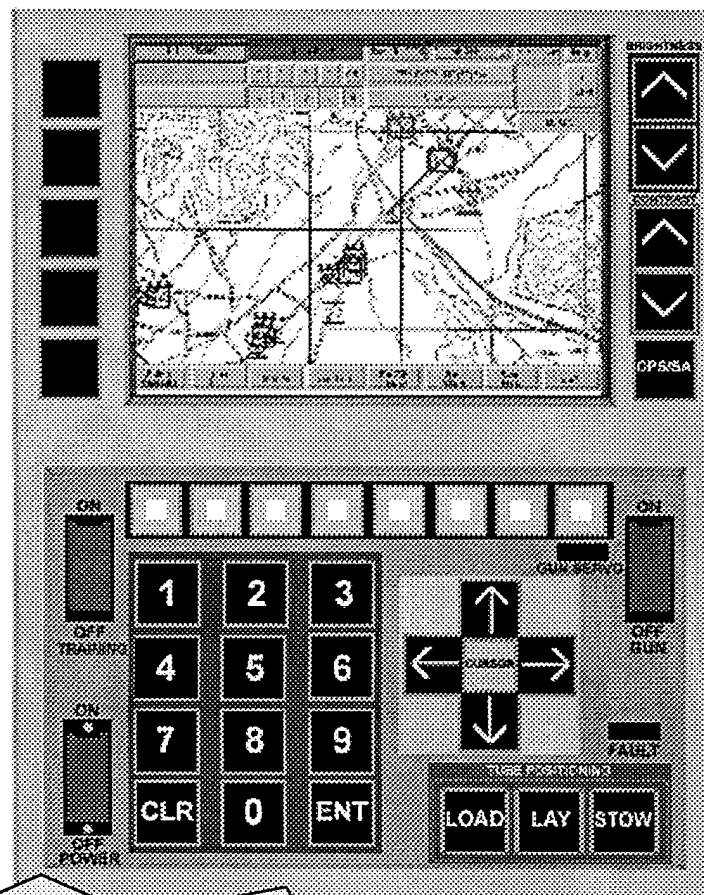- Tactical Internet
- BCIS

ADO-Approved Migration Plan

To Follow
Improved Embedded Training & Diagnostics

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Graphical Display Characteristics

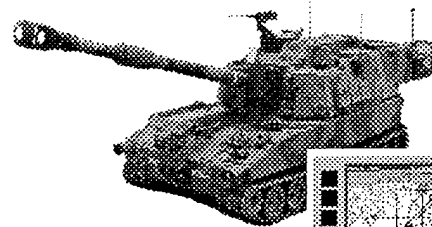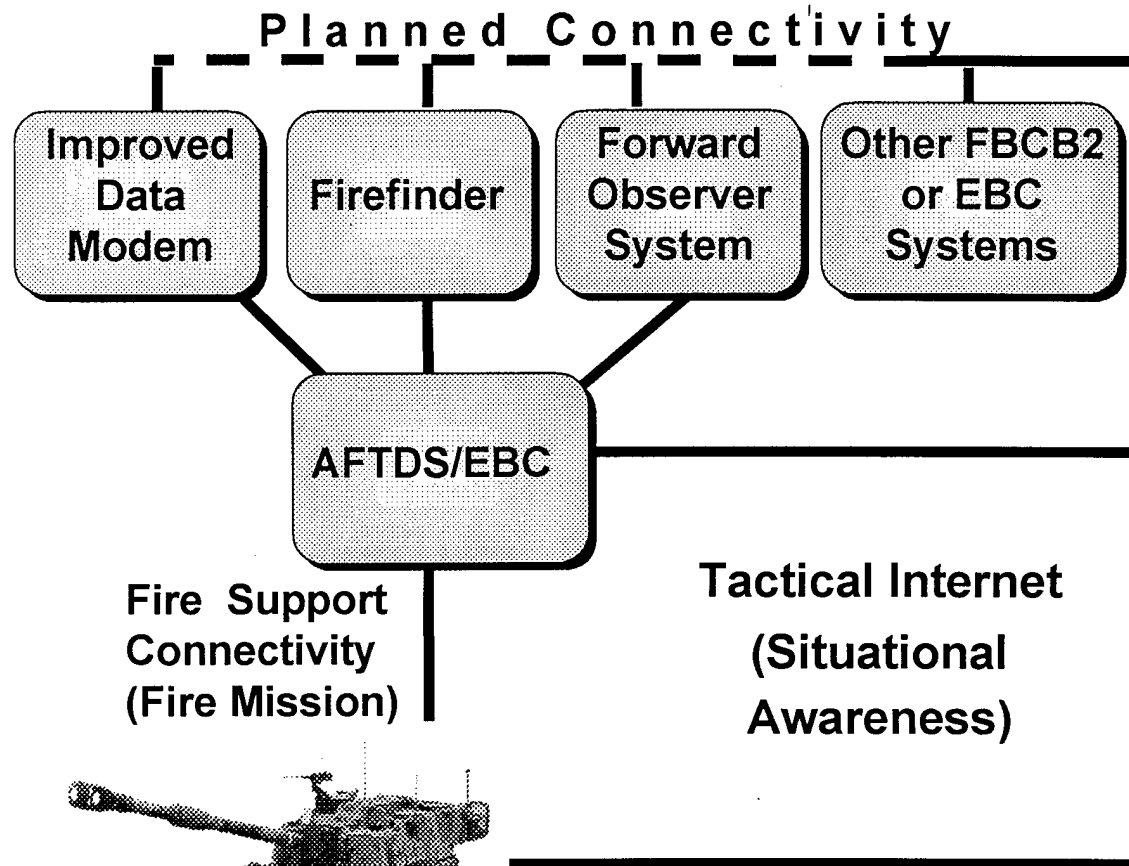**Display Situational Awareness Maps Plus Battlespace Overlays**

COTS Components

Retain Familiar Fire Mission Interface
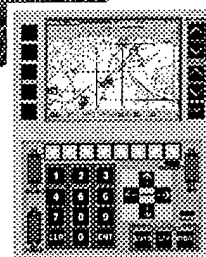
Enable Future Upgrades

Toggles Readily Between Fire Mission and Situational Awareness 'Windows'

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Digital Interoperability

Planned Connectivity

```
Improved          Firefinder      Forward         Other FBCB2
Data                              Observer        or EBC
Modem                             System          Systems
```

AFTDS/EBC

Fire Support
Connectivity
(Fire Mission)

Tactical Internet
(Situational
Awareness)

Paladin/EBC

	Tactical Internet
	Fire Support Connectivity

FTDS Package	Fire Support Connectivity (SINCGARS/TCIM)	Tactical Internet (EPLRS/INC)
10	TACFIRE Protocol	
11	VMF	
12 FDD	JVMF	JVMF

EBC Provides Gateway To Tactical Internet

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Baseline Schedule - First Unit Equipped

FY 98	FY 99	FY 00
O N D J F M A M J J A S	O N D J F M A M J J A S	O N D J F M A M J J A S

Package 11 Software (FS VMF)

Package 12 Software (JVMF & EBC)

Graphical Display Integration

Production Displays

Availability Of Reusable Embedded Battle Command Software Drives Schedule

FUE (4-ID)
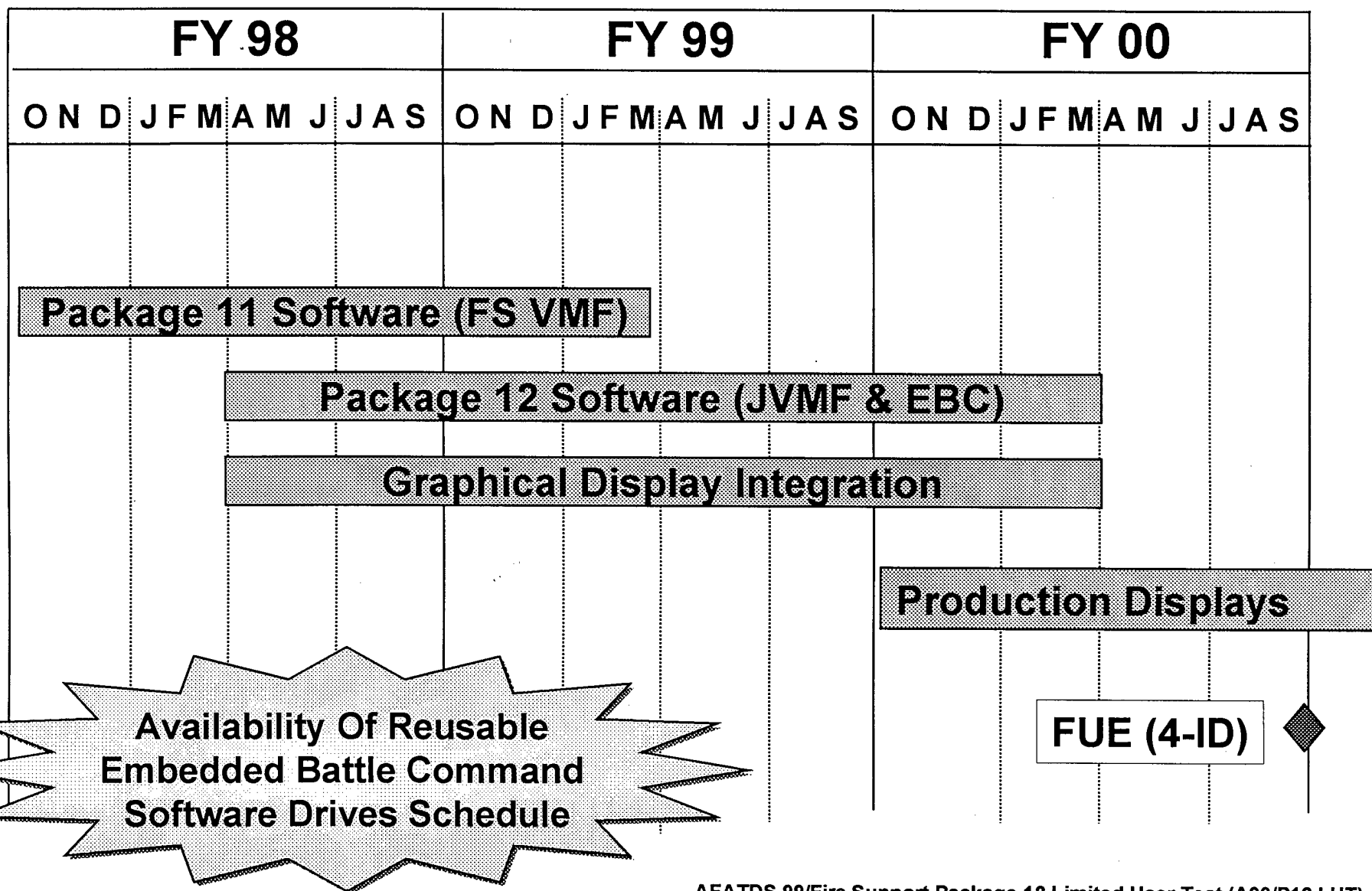
AFATDS 99/Fire Support Package 12 Limited User Test (A99/P12 LUT)

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Summary

- **Keep The Soldier Machine Interface Simple**
  - > Minimize Training
  - > Maximize Fighting Effectiveness

- **Keep It Simple for Maintenance Personnel**
  - > Reduce The Number of 'Boxes'
  - > Improve Embedded Diagnostics

- **Manage Life Cycle Costs**
  - > Performance Specification
  - > COTS Components and Commercial Operating System
  - > Plan for Upgrades
  - > Migrate to Real Time Common Operating Environment (RTCOE)

- **Successful Weapons System Digitization Relies On A Customer-Oriented Approach To Reusable Embedded Battle Command Software**
  - > EBC Provider
  - > Platform PMs

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